

# MATHEMATICS

## TABLE OF LEARNING MATERIALS

Name: \_\_\_\_\_ School Grade: \_\_\_\_\_

Pencil Skills Programme		Level 6A	Level 5A	Level 4A	Level 3A	Level 2A
1	Colouring 1-2	1				Review up to 3A
11		11	Counting (Up to 5) 1-3	Number Tracing Exercises 1-4		Adding 4 Part 1 (Up to 12+4)
21		21			Numbers up to 100 1-6	Adding 4 Part 2 (Up to 16+4)
31	Straight Lines 1-3	31				Adding 5 Part 1 (Up to 12+5)
41		41		Number Reading Exercises (Up to 30) 1-10		Adding 5 Part 2 (Up to 15+5)
51		51				Adding up to 5 1-2
61		61	Counting (Up to 10) 1-7	Number Writing Exercises up to 10 1-6	Numbers up to 120	Adding 6 Part 1 (Up to 12+6)
71	Curved Lines 1-5	71			Adding 1 Part 1 (Up to 12+1)	Adding 6 Part 2 (Up to 14+6)
81		81			Adding 1 Part 2 (Up to 18+1)	Adding 7 Part 1 (Up to 11+7)
91		91			Adding 1 Part 3 (Up to 24+1)	Adding 7 Part 2 (Up to 13+7)
101		101		Number Writing Exercises up to 20 1-2	Adding 1 Part 4 (Up to 30+1)	Adding up to 7 1-2
111	Shapes and Pictures 1-3	111	Sequence of Numbers (Up to 30) 1-3	Number Writing Exercises up to 30 1-2	Adding 1 Part 5 (Up to 60+1)	Adding 8 Part 1 (Up to 11+8)
211		211			Adding 1 Part 6 (Up to 100+1)	Adding 8 Part 2 (Up to 12+8)
311		311	Sequence of Numbers (Up to 40) 1-3		Adding 2 Part 1 (Up to 14+2)	Adding 9 (Up to 12+9)
411	Shapes and Pictures (Stories) 1-3	411			Adding 2 Part 2 (Up to 18+2)	Adding 9 and 10 (Up to 12+9 and 15+10)
511		511			Adding 2 Part 3 (Up to 32+2)	Adding up to 10 1-3
611	Back and Forth 1&2	611	Sequence of Numbers (Up to 50) 1-3	Numbers up to 50 1-6	Adding 3 Part 1 (Up to 14+3)	
711		711			Adding 3 Part 2 (Up to 21+3)	
811	Corners and Curves 1&2	811	Large Numbers		Adding up to 3 1-2	
911		911				

Target: \_\_\_\_\_

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Level A	Level B	Level C	Level D	Level E	Level F
1	Addition 1 (Review up to 2A)	Review up to B	Review up to C	Review up to D	Review up to E
11	Addition 2 (Up to sum of 12)	Multiplication up to 3			Multiplication and Division of 3 Fractions
21	Addition 3 (Up to sum of 15)	Multiplication up to 5	Multiplication: 2 Digits x 2 Digits 1-3		Addition of 3 Fractions 1-2
31	Addition 4 (Up to sum of 18)	Multiplication up to 7			Addition and Subtraction of 3 Fractions
41	Addition 5 (Up to sum of 20)	Multiplication up to 9	Multiplication: 3 Digits x 2 Digits		Order of Operations (3 Fractions) 1-3
51	Addition 6 (Up to sum of 24)		Addition and Subtraction	Addition of Fractions 1-9	
61	Addition 7 (Up to sum of 28)		Multiplication and Division 1-2		Order of Operations (3 or more Fractions) 1-4
71	Addition 8 (Summary of addition)	Multiplication: 2 Digits x 1 Digit 1-5			
81	Subtraction 1 (Subtracting 1)		Division by 2-Digit Numbers 1-5		
91	Subtraction 2 (Subtracting 2)				
101	Subtraction 3 (Subtracting 3)	Multiplication: 3 or 4 Digits x 1 Digit			
111	Subtraction 4 (Subtracting up to 3)	Introduction to Division			
121	Subtraction 5 (Subtracting up to 5)				
131	Subtraction 6 (From numbers up to 10)	Division with Remainders 1-4			
141	Subtraction 7 (From numbers up to 11)				
151	Subtraction 8 (From numbers up to 12)				
161	Subtraction 9 (From numbers up to 14)	Division: 2 Digits + 1 Digit 1-2			
171	Subtraction 10 (From numbers up to 16)				
181	Subtraction 11 (From numbers up to 20)	Division: 3 Digits + 1 Digit 1-2			
191	Subtraction 12 (Summary of subtraction)				



	Level G	Level H	Level I	Level J	Level K	Level L
1	Review up to F 1-2	Basics for Level H Mathematics 1-2	Basics for Level I Mathematics	Expansion of Polynomial Products	Review of Linear Functions	Logarithmic Functions
11			Multiplication of Polynomials		Review of Quadratic Functions	Graphs of Logarithmic Functions
21		Literal Equations 1-2	Multiplication Using Formulae		Quadratic Functions and Graphs	Logarithmic Equations and Inequalities
31					Determining Equations of Quadratic Functions	Modulus Functions
41	Addition and Subtraction of Positive and Negative Numbers 1-4			Factorisation 1-V		Limits and Derivatives
51			Factorisation 1-5		Maxima and Minima of Quadratic Functions 1-II	Tangents
61	Multiplication of Positive and Negative Numbers	Simultaneous Linear Equations 1-5		Fractional Expressions		Relative Maxima and Minima 1-II
71	Division of Positive and Negative Numbers			Irrational Numbers 1-II	Quadratic Functions and Equations	
81	Four Operations with Positive and Negative Numbers 1-2				Quadratic Functions and Inequalities	Maxima and Minima 1-II
91		Simultaneous Linear Equations in Three and Four Variables 1-2	Square Roots 1-3	Quadratic Equations 1-II	Quadratic Functions and Solutions of Quadratic Equations	
101	Values of Algebraic Expressions 1-2	Application of Equations			Higher Degree Functions	Applications to Equations and Inequalities
111			Quadratic Equations 1-3	Quadratic Equations and Complex Numbers	Higher Degree Equations and Inequalities	Indefinite and Definite Integrals
121		Inequalities 1-2		Discriminant	Graphs of Fractional Functions 1-II	Definite Integrals 1-II
131	Simplifying Algebraic Expressions 1-4			Root-Coefficient Relationships		
141			Graphs of Quadratic Functions 1-3	Simultaneous Equations	Fractional Equations and Inequalities	Areas 1-II
151		Functions and Graphs 1-4		Dividing Polynomials	Graphs of Irrational Functions	
161				Remainder Theorem	Irrational Equations and Inequalities	Volumes
171	Linear Equations 1-4		The Pythagorean Theorem 1-3	Factor Theorem	Exponential Functions	Velocity and Distance
181		Simplifying Monomials and Polynomials 1-2		Proof of Identities	Graphs of Exponential Functions	Summary of Differentiation and Integration 1-II
191				Proof of Inequalities	Exponential Equations and Inequalities	

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	Level M	Level N	Level O	Level XT	Level XM	Level XP
1		Loci 1-II	Advanced Differentiation 1-II	Sine and Cosine Theorems	Matrix Definitions, Addition and Subtraction	Introduction to Permutations
11					Matrix Multiplication	Permutations
21	Trigonometric Functions 1-VI	Quadratic Inequalities and Regions	Increasing and Decreasing Functions	Application 1-II	Inverse Matrices	Permutations and Combinations
31		Arithmetic Sequences	Concavity and Tangents		Equations and Matrices	Combinations
41		Sums of Arithmetic Sequences	Maxima and Minima		Mapping 1-II	Binomial Theorem
51		Geometric Sequences	Application of Differential Calculus 1-II			Probability
61	Trigonometric Equations	Sums of Geometric Sequences				Conditional Probability
71	Graphs of Trigonometric Functions 1-II	Various Sequences	Indefinite Integrals 1-II	Surface Vectors 1-IV	Transformations 1-II	Independent Trials
81		Infinite Sequences				Expected Value
91	Trigonometric Inequalities	Infinite Geometric Sequences 1-II	Definite Integrals 1-II			
101	Maxima and Minima			Coordinates in Space		
111		Infinite Geometric Series	Advanced Integration	Vectors in Space		
121	Addition Formulas 1-II	Infinite Series		Basics of Inner Products of Vectors		
131		Limits of Functions 1-II	Application of Integrals 1-IV	Inner Products of Vectors		
141	Coordinates of a Point			Applications and Summary of Vectors		
151		Limits of Trigonometric Functions		Vectors and Figures		
161	Equations of Lines 1-II	Continuous and Discontinuous Functions		Equations of Lines and Planes in Space 1-II		
171			Differential Equations 1-II			
181	Equations of Circles	Differentiation 1-II				
191	Tangents of Circles					

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	Level XS
1	Introduction to Statistics
11	Binomial Distribution
21	Probability Density Function
31	Standard Normal Distribution 1-II
41	
51	Sampling
61	Hypothesis Testing